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Ivlev, V.F.

F-4

USSR/Magnetism - Ferromagnetism

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 11995

Author : Kirenskiy, L.V., Ivlev, V.F.

Inst : Krasnoyarsk Pedagogical Institute, USSR.

Title : Temperature Hysteresis of the Galvanomagnetic Effect.

Orig Pub : Dokl. AN SSSR, 1956, 106, No 3, 419-421

Abstract : An investigation was made of the galvanomagnetic effect in a nickel wire 20 cm long, 0.05 mm in diameter. During the investigation use was made of a compensator -- a similar nickel wire, wound in the form of a helix, whose turns are perpendicular to the field. The use of a compensator has made it possible to exclude the factor of the dependence of the resistance in the temperature. The temperature was raised from room temperature to the Curie point and again reduced to room temperature. The magnitude of the

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IVLEV, V. F.

AUTHORS: Ivlev, V. F., Il'yushenko, V. L., Aseyeva, L. I. 48-9-10/26

TITLE: An Investigation of the Irreversible Bounds of Magnetization in Ferromagnetica (Issledovaniye neobratimykh skachkov peremagnichivaniya v ferromagnetikakh).

PERIODICAL: Izvestiya AN SSSR Seriya Fizicheskaya, 1957, Vol. 21, Nr 9, pp. 1250-1254 (USSR.).

ABSTRACT: The purpose of the present paper was 1) to investigate the problem, wether the law established by one of the authors, saying that the number of bounds and their magnitude is decreasing according to an exponential law at a temperature rise, holds for ferromagnetica in general or only for nickel. 2) to perform an experimental investigation of the dependence of the number and of the magnitude of the bounds on the crystallographic ordering and its temperature dependence. It is shown, that the number of magnetic reversal bounds is essentially dependent upon the crystallographic direction, which means, that there exists a considerable anisotropy of the number of bounds. The minima and maxima of the number of bounds of all dimensions correspond to the identical crystallographic direction. It is shown, that in the case of a monocrystal sample of silicious iron the number of bounds is essentially de-

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An Investigation of the Irreversible Bounds of Magnetization in Ferromagnetica. 48-9-10/26

pendent upon temperature. On the basis of the investigation it is shown, that the anisotropy of the number of bounds, which has been established, as well as its temperature dependence reflect to a certain degree the anisotropy and the temperature dependence of the constant of magnetostriction λ_s for the different crystallographic directions.
There are 4 figures and 4 references, 3 of which are Slavic.

ASSOCIATION: State Institute for Pedagogics, Krasnoyarsk (Krasnoyarskiy gos. pedagogicheskiy institut).

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

IVLEV, V. F.

AUTHORS: Kirenskiy, L. V., Vlasov, A. Ya., Vtyurin, N. I. 48-9-12/26
Drokin, A. I., Ivlev, V. F., Tukalov, R. I.

TITLE: Note on the Temperature- and Circular-Hysteresis in Ferromagnetic Substances (Temperaturnyy i vrashchatel'nyy gisterezis v ferromagnetikakh).

PERIODICAL: Izvestiya AN SSSR Seriya Fizicheskaya, 1957, Vol. 21, Nr 9, pp. 1262-1267 (USSR.).

ABSTRACT: In this paper experimental investigations were conducted of: 1) The temperature hysteresis of magnetization according to the B-cycle (cooling-heating) (TMH), 2) the temperature hysteresis of magnetostriction (TMH), 3) the temperature hysteresis of the galvanomagnetic effect (THGE) according to the A-cycle (heating-cooling), 4) the phenomenon of the "circular" hysteresis of magnetostriction was established and investigated parallel to the study of the losses in rotating magnetic fields. The investigations were conducted on various samples of nickel. On the examination of the TMH' effect thick samples showed a much more marked effect than thin ones. If further cooling is applied, the thicker samples are subject to the effect of the demagnetization factor, which reduces the originally weak field. The importance of the energy of anisotropy grows, because of which fact

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48-9-12/26

Note on the Temperature- and Circular-Hysteresis in Ferromagnetic Substances.

the magnetization vectors of the domains do not arrange themselves parallel with the magnetic field, but along the easter direction of magnetization, which cannot coincide with the orientation of the weak field. It is shown, that the THM-effect diminishes with the growth of the field. No THM-effect is observed in fields of the order of magnitude of 100 Oe. Analoguous observations were made in the case of the THGE-effect. The magnitude of THM and THGE depends on the initial temperature of heating and on the final point of heating (conversion point), if it is below the Curie point. Analysis of the magnetographs from the magnetic recorder showed, that the magnetostriction as well as the UHM-effect grows strongly with an increase of the field from 100 to 1000 Oe and on a further increase of the fields tends asymptotically to its maximum values.
There are 11 figures and 8 Slavic references.

ASSOCIATION: State Institute for Pedagogics of Krasnoyarsk (Krasnoyarskiy gos. pedagogicheskiy institut).

AVAILABLE: Library of Congress.

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

AUTHORS: Ivlev, V. F., Rudyak, V. M. SOV/2o-12o-3-15/67

TITLE: On the Existence of a Most Probable Value of the Remagnetization Jump (O sushchestvovanii naiboleye veroyatnogo razmera skachka peremagnichivaniya)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 12o, Nr 3, pp. 495 - 496 (USSR)

ABSTRACT: In spite of the considerable success achieved recently by investigations of the Barkhausen (Barkgauzen) effect, the problem of the character of the distribution of the remagnetization jumps according to the extent of these jumps has hitherto not been solved. Most research workers came to the conclusion that the number of remagnetization jumps grows with a reduction of their extent. For the purpose of investigating this problem more closely, the authors of this paper recently carried out experiments by means of a device which has already been described (Ref 8). It was possible to increase the sensitivity of this apparatus to 10^{-7} CGSM by a considerable reduction of the disturbances caused by the exterior "vagrating" magnetic fields. The investigations were

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carried out with not annealed as well as with annealed samples made from electrolytic nickel. The results obtained are illustrated by a diagram, according to which the curve has a marked maximum, which means that for every state of the sample there exists a most probable extent of the remagnetization jump which characterizes the respective state. This is true both for annealed and not annealed samples. By annealing the total number of these jumps is reduced, and the maximum of the distribution shifts towards the larger jumps. This shift is apparently due to reduction of elastic tensions as a result of annealing. A similar maximum in the curve of the distribution of remagnetization jumps according to their extent was also obtained by measurements carried out with iron samples. In conclusion, the authors thank Professor L.V.Kirenskiy for his valuable advice. There are 1 figure and 8 references, 3 of which are Soviet.

ASSOCIATION: Krasnoyarskiy pedagogicheskiy institut (Krasnoyarsk Institute of Pedagogics)

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On the Existence of a Most Probable Value of the Remagnetization Jump

SOV/20-120-3-15/67

PRESENTED: January 28, 1958, by A.V.Shubnikov, Member, Academy of Sciences, USSR

SUBMITTED: January 28, 1958

1. Nickel--Magnetic factors 2. Iron--Magnetic factors
3. Magnetic fields--Properties 4. Magnetism--Analysis

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IVLEV, V.F.

71

PHASE I BOOK EXPLOITATION SOV/5526

Vsesoyuznoye soveshchaniye po magnitnoy strukture ferromagnetikov, Krasnoyarsk, 1958.

Magnitnaya struktura ferromagnetikov; materialy Vsesoyuznogo soveshchaniya, 10 - 16 iyunya 1958 g., Krasnoyarsk (Magnetic Structure of Ferromagnetic Substances; Materials of the All-Union Conference on the Magnetic Structure of Ferromagnetic Substances, Held in Krasnoyarsk 10 - 16 June, 1958) Novosibirsk, Izd-vo Sibirskogo otd. AN SSSR, 1960. 249 p. Errata slip inserted. 1,500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut fiziki Sibirskogo otdeleniya. Komissiya po magnetizmu pri Institute fiziki metallov OFMN.

Resp. Ed.: L. V. Kirenskiy, Doctor of Physical and Mathematical Sciences; Ed.: R. L. Dudnik; Tech. Ed.: A. F. Mazurova.

PURPOSE: This collection of articles is intended for researchers in ferromagnetism and for metal scientists.

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

Magnetic Structure (Cont.) SOV/5526

COVERAGE: The collection contains 38 scientific articles presented at the All-Union Conference on the Magnetic Structure of Ferromagnetic Substances, held in Krasnoyarsk in June 1958. The material contains data on the magnetic structure of ferromagnetic materials and on the dynamics of the structure in relation to magnetic field changes, elastic stresses, and temperature. According to the Foreword the study of ferromagnetic materials had a successful beginning in the Soviet Union in the 1930's, was subsequently discontinued for many years, and was resumed in the 1950's. No personalities are mentioned. References accompany individual articles.

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Shur, Ya. S. [Institut fiziki metallov AN SSSR - Institute of Physics of Metals, AS USSR, Sverdlovsk]. On the Magnetic Structure of Ferromagnetic Substances 5

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Electric Resistance of Iron at Low Temperatures 73

Kaganov, M. I. [Physicotechnical Institute AS UkrSSR, Khar'kov]. Influence of the Hall Effect on the Resistance of Ferromagnetic Substances 79

Krinchik, G. S. [Physics Department of the Moscow State University]. Structure of the Domain Boundary and Dynamic Properties of Ferromagnetic Substances 85

Telesnin, R. V., and Ye. P. Dzaganiya [Physics Department of the Moscow State University]. On the Delayed Jumps in Magnetization 91

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Rodichev, A. M., V. A. Ignatchenko, and N. M. Salanskiy [Institute of Physics, Siberian Branch AS USSR, Krasnoyarsk].

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Magnetic Structure (Cont.) SOV/5526

Evaluation of the Magnitude of the Barkhausen Jump 113

Ignatchenko, V. A., and A. M. Rodichev [Institute of Physics, Siberian Branch AS USSR, Krasnoyarsk]. On the Distribution of Barkhausen Jumps by Magnitude 123

Rodichev, A. M., N. M. Salanskiy, and V. I. Sinegubov [Institute of Physics, Siberian Branch AS USSR, Krasnoyarsk]. Statistical Distribution of Barkhausen Jumps by Duration 129

Rodichev, A. M. [Institute of Physics, Siberian Branch AS USSR, Krasnoyarsk]. Dependence of the Barkhausen Effect on the Rate of Change of the Magnetic Field 135

Ivlev, V. F., and V. M. Rudyak [Teachers Institute, Krasnoyarsk]. Measuring the Coercive Force by the Barkhausen Jump Method 143

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20973
S/058/61/000/004/020/042
A001/A101

24.2200 (1137, 1147, 1158)

AUTHORS: Ivlev, V.P., Rudyak, V.M.

TITLE: On studying irreversible jumps of magnetism reversal

PERIODICAL: Referativnyy zhurnal, Fizika, no 4, 1961, 326, abstract 4E512 ("Uch. zap. Krasnoyarskiy gos. ped. in-t", 1958, v 2, 84 - 88)

TEXT: The authors investigated various methods of reducing the noise level at the output of a low-frequency amplifier in measuring Barkhausen discontinuities during magnetization reversal of the specimen. It was established that external magnetic disturbances play the main part. The effect of multiple electromagnetic screening of the measuring coil on the magnitude of external disturbances was studied. A considerable reduction of the noise level was achieved by decreasing dimensions and inductivity of the measuring coils by means of manufacturing them from a small-diameter wire (up to 0.03 mm). The employment of these coils permitted the measurements of magnetization reversal discontinuities amounting to $\sim 10^{-7}$ CGSM magnetic moment. An experimental curve was presented which characterizes the relation between the number of Barkhausen discontinuities and their dimensions for a Ni specimen. P. Korzhavin

[Abstracter's note: Complete translation.]

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

20972

S/058/61/000/004/019/042
A001/A101

24.2200 (1137, 1147, 1158)

AUTHORS: Ivlev, V.F., Rudyak, V.M.

TITLE: On statistical distribution of Barkhausen discontinuities

PERIODICAL: Referativnyy zhurnal, Fizika, no. 4, 1961, 326, abstract 4E511 (Uch. zap. Krasnoyarskiy gos. ped. in-t", 1958, v 2, 89 - 98)

TEXT: Statistical distribution on Barkhausen discontinuities was experimentally studied by hysteresis loop. The number of emf pulses arising in the measuring coil during recording of Barkhausen discontinuities was counted, after amplification, with the aid of a ПС-64.5 (PS-64.5) computing circuit and an electromechanical circuit. To raise the sensitivity of the device, a measuring coil of 0.03 mm diameter copper wire was used; it had a low level of introduced noise at the great density of the turns. Barkhausen discontinuities were measured with a Ni-wire of 0.5 mm in diameter and 35 mm long in annealed and not annealed states at temperatures of +18 and -183°C. Owing to the higher sensitivity of this device, the distribution function of Barkhausen discontinuity numbers obtained differs essentially, in their magnitude, from the results obtained earlier by the other authors (Bush, Teblle. "Proc. Phys. Soc.", 1948, v 60; 370; Sawada. "J.Phys.

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On statistical distribution of Barkhausen ... S/058/61/000/004/019/042
A001/A101

Soc. Japan", 1952, v 7, 564). It was established that the distribution curve of Barkhausen discontinuities according to their magnitude had a maximum; its reason was the existence, for the given state of the specimen, of the most probable magnitude of the discontinuity of magnetization reversal; this magnitude depends on internal stresses in the specimen, and it shifts towards greater discontinuities after annealing.

P. Korzhavin

[Abstracter's note: Complete translation.]

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

33684
S/058/61/000/012/065/083
A058/A101

24,2200 (1068, 1147, 1114)

AUTHORS: Ivlev, V.F., Rudyak, V.M.

TITLE: Statistical distribution in size of remagnetization jumps

PERIODICAL: Referativnyy zhurnal. Fizika, no. 12, 1961, 385, abstract 12E701 (V sb. "Magnitn. struktura ferromagnetikov", Novosibirsk, Sib. otd. AN SSSR, 1960, 101 - 112)

TEXT: A technique for measuring the distribution in size of remagnetization jumps, and the basic diagram of the setup used, are described. The setup was graduated by the calibration-coil method. It was established that noise level is mainly due to inductance L of the measuring coil, and that increase of the coil's ohmic resistance to 1 kohm virtually does not affect amplifier noise. Noise level is appreciably reduced by screening the measuring coil by means of a magnetic screen. The sensitivity of the setup was enhanced by choosing a coil with small L and high density of turns (thin wire). Measurements were carried out for field strengths ranging from -100 to +100 oersted. Specimens of annealed and unannealed Ni and Ni-Si alloys were investigated. It was found that the integral distribution curve has a point of inflection while the differential curve has a

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A058/A101

Statistical distribution ...

maximum corresponding to the most probable value of the remagnetization jump. The effect of annealing, tension and impurities on the character of the distribution in size of jumps and on the most probable magnitude of jump, was studied. Initial annealing changes the distribution curve appreciably: The total number of jumps decreases, while the maximum is shifted to the side of sharper jumps. In the case of increase of internal stresses (after tension) the direct opposite was observed. Doping with Si (up to 2%) decreases the total number of jumps and causes the maximum to shift to the side of sharper jumps. Comparison of the distribution curves leads the authors to infer that 1) most jumps are due to nonmagnetic enclaves rather than to internal stresses and 2) jumps due to nonmagnetic enclaves are appreciably greater than those due to internal stresses.

L. Vinokurova

[Abstracter's note: Complete translation]

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

31759
S/058/61/000/011/017/025
A058/A101

24,2200 (1068, 1158)

AUTHORS: Ivlev, V. F., Rudyak, V. M.

TITLE: Measurement of coercive force by the Barkhausen jump method

PERIODICAL: Referativnyy zhurnal, Fizika, no. 11, 1961, 240, abstract 11E514 (V sb. "Magnitn. struktura ferromagnetnikov". Novosibirsk, Sib. otd. AN SSSR, 1960, 143-145)

TEXT: For measuring coercive force a new method based on the Barkhausen effect is proposed. Coercive force is determined from the value of the magnetic field corresponding to half the number of Barkhausen jumps for a change in magnetization from -Is to +Is. The experiment was carried out in a set-up in which one of the coils of the astatic magnetometer served as the magnetizing coil, which made it feasible to measure simultaneously the number of Barkhausen jumps, the magnetization I of the specimen and the magnetic field strength H. Experiments carried out with Ni and Fe specimens and Ni-Si alloys showed that in all cases, the field corresponding to half the total number of Barkhausen jumps was equal to the coercive force. By virtue of the great number of Barkhau-

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Measurement of coercive force ...

sen jumps and their good reproducibility, this method enables one to measure coercive force with an accuracy approaching 0.01 oersted even in the case of specimens 0.1 mm in diameter.

V. Ivanovskiy

[Abstracter's note: Complete translation]

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

24,2200

S/048/61/025/005/011/024
B117/B201

AUTHORS: Tyulev, V. F., and Prokopenko, V. S.

TITLE: Formation of nuclei and Barkhausen effect in ferromagnetic films

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya. v. 25, no. 5, 1961, 606-609

TEXT: The present investigation was the subject of a lecture delivered at a symposium on thin ferromagnetic films (Krasnoyarsk, July 4 to 7, 1960). Cylindrical iron films were examined with a view to clarifying the relationship between the process of the formation of nuclei and the Barkhausen effect in ferromagnetic films. The production technique differed somewhat from the usual procedure (Ref. 7: Blois M., J. Appl. Phys., 26, 975 (1955)). The vaporizer was an iron solenoid fastened inside an evacuated glass chamber with the aid of a mica holder. The film was sputtered onto a glass thread strained along the solenoid axis. The glass thread was first degreased and then cleaned by gas discharge at a pressure of $\sim 10^{-2}$ mm Hg. At the beginning of evaporation the pressure

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in the vacuum chamber did not exceed $8 \cdot 10^{-6}$ mm Hg. When heating the solenoid with direct current, uniaxially anisotropic films resulted, whose axes of easiest magnetizing coincided with the solenoid axis. The field created by the vaporizer amounted to at most 20 oe at the film surface. The investigation method was on principle the same as is usually applied to the study of the Barkhausen effect in massive ferromagnetic substances (Ref. 8: V. F. Ivlev. Izv. AN SSSR. Ser. fiz., 16, 664 (1952)). A broad-band standard amplifier of the type UU-10 (UUSh-10) served as the main amplifier. The sensitivity of the system allowed safely to detect magnetization jumps in film volumes of over $1.2 \cdot 10^{-9}$ cm^{-3}. Investigation results are given for films 5000 Å thick, that were sputtered onto a thread 0.3 mm in diameter. Films were subjected to magnetic reversal along the axis of their easiest magnetizing with a field changing at a rate of 0.02 oe sec^{-1}. Jumps were observed twice, in field intervals $\pm 36 \div 49$ oe, during one cycle, with a rise of the absolute field value. On a complete magnetic reversal of the films concerned, the resulting distribution of the type

$$N = N_0 A \exp(-kM^{1/n}) \qquad (2)$$

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is valid (M - magnitude of the magnetization jump; N_o - total number of jumps; N - number of jumps of a large M; λ, k, n, and A - constant quantities). It was established from the statistical distribution of differently large jumps (Fig. 3) that the distribution character of magnetization jumps in the film changes in magnitude during magnetization. Beginning with a field of 39.5 oe, when already 80 % of the film substance has undergone magnetic reversal, the distribution of jumps takes place according to formula (1)

$$N = N_o \exp(-\lambda M) \qquad (1)$$

(Fig. 4, where N_o' is the number of jumps established after the field of 39.5 oe has been applied). Such a distribution character of the jumps over the field is difficult to explain on the basis of the model offered in Ref. 1 (Ford N., Pugh E., J. Appl. Phys. (S), 30, 270 (1959)), as this model ignores the process of formation of nuclei completely. Under the premise that all jumps observed in the magnetic reversal of the film are dependent upon the process of formation of nuclei, the distribution diagram of the number of jumps in the field must be a straight line in coordinates $\ln\left(1 - \frac{N}{N_o}\right)$ and $\ln(H_k - H)/(H_k - H_o)$. Such a diagram,

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constructed on the basis of results obtained, is presented in Fig. 5. The field of 39.5 oe corresponds to the salient point. The differing values of p for the two sections of the straight line point to different conditions of formation of the magnetization jumps below and above the 39.5 oe field. Once the process of magnetic reversal is over, distribution (1) is valid, which is characteristic of the magnetic reversal by the displacement of a boundary. This happens possibly with the magnetic reversal of cylindrical films: the ring-shaped boundary formed by the nuclei diffusing into one another is moving. The fact that the magnetization jumps observed in this connection are distributed over the field in a similar way as the nuclei of magnetic reversal allows the statement to be made that on a displacement of the boundaries in the film the magnetization jumps depend upon the formation of nuclei directly at the boundaries. It is possible in this way to compare every Barkhausen jump to the formation of a nucleus of inverse magnetization. On a faster growth of the field causing magnetic reversal the total number of jumps during one cycle increases (Fig. 6). This could prove to be to the same extent a consequence of an increase of the number and an increase of the size of the nuclei of magnetic reversal in films with a quicker change of the field. There are 6 figures and

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Formation of nuclei and Barkhausen....

9 references: 1 Soviet-bloc and 8 non-Soviet-bloc.

ASSOCIATION: Krasnoyarskiy gos. pedagogicheskiy institut (Krasnoyarsk State Pedagogical Institute)

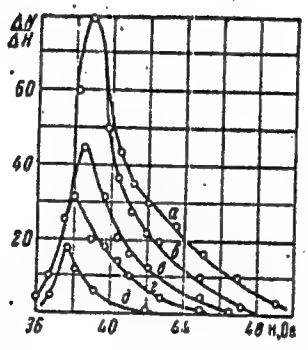

Fig. 3

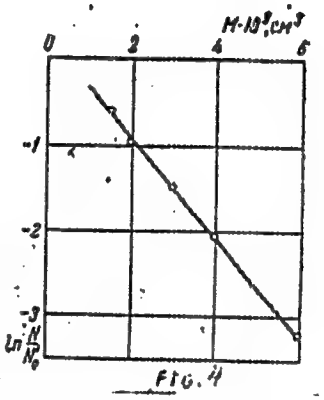

Fig. 4

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36397
S/139/62/000/001/026/032
E032/E114

24,2200

AUTHORS: Ivlev, V.F., and Prokopenko, V.S.

TITLE: On the Barkhausen effect in cylindrical iron films

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika, no.1, 1962, 154-157

TEXT: The authors report a study of the statistical distribution of Barkhausen pulses for slow magnetisation reversal in cylindrical iron films obtained by vacuum evaporation. The technique used in the measurements was essentially the same as that reported by the first of the present authors in a previous paper. The sensitivity of the apparatus was such that it was possible to record magnetisation discontinuities within film volumes greater than 1.2×10^{-9} cm3. The results reported in the present paper refer to films 5000 Å thick and deposited on glass fibres 0.3 mm in diameter. The rate of magnetisation was 0.08 oersted/sec. It was found that the magnitude of the Barkhausen pulses could be described by a formula of the form

$$N = N_0 \Lambda e^{-kM^{1/n}} \qquad (2)$$

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where M is the magnitude of the magnetisation discontinuity and N is the number of such discontinuities greater than M. This formula was originally reported by N. Ford and E. Pugh, for FeNi. It was found that, beginning with a field of 39.50 oe, when 80% of the material had been remagnetised, the distribution of the discontinuities could be described by a formula of the form:

$$N = N_o e^{-\lambda M} \qquad (1)$$

where N_o is the number of discontinuities of all sizes recorded above 39.5 oe. Finally, a plot of $\ell n \left[(H_k - H)/(H_k - H_o)\right]$ versus $\ell n (1 - N/N_o)$ was found to consist of two straight lines of slightly different slopes joined together at a point corresponding to 39.5 oe. In the above expressions H_k is the anisotropy field, H_o is the field for the formation of the first "nucleus", N_o is the possible number of "nuclei" in the interval $H_k - H_o$, and p is the probability density for the formation of a "nucleus" in the film which is constant in the remagnetisation region. It is therefore concluded that it is possible to look

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On the Barkhausen effect in ... S/139/62/000/001/026/032
E032/E114

upon each Barkhausen jump as the formation in the film of a nucleus with the reverse direction of magnetisation. There are 4 figures.

ASSOCIATION: Krasnoyarskiy pedinstitut
(Krasnoyarsk Pedagogical Institute)

SUBMITTED: October 10, 1960

Card 3/3

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S/126/62/014/006/019/020
E073/E420

24.7200

AUTHORS: Ivlev, V.F., Pak, N.G., Kan, S.V.

TITLE: Hysteresis loops in flat ferromagnetic films

PERIODICAL: Fizika metallov i metallovedeniye, v.14, no.6, 1962, 938-940

TEXT: There are no literary data on the hysteresis of isotropic films. To fill this gap ferromagnetic films were investigated which were produced by thermal evaporation of iron and of an alloy (17% Fe, 80% Ni, 3% Mo) from a tungsten crucible. The metallic vapour beam was at an angle of 15° to the substrate. Relatively thick iron films were deposited on glass discs (heated to 300°C) in a magnetic field of 100 Oe, by evaporation from an electrically heated iron wire. The metal layer was not covered by a layer of a dielectric. The magnitude and the direction of the magnetization vector changed during cyclic remagnetization and hence the flux of reflected polarized light also changed. Using the longitudinal Kerr effect by revolving the specimen or the remagnetization equipment relative to the plane of incident light a series of loops could be obtained from a single film in the same way as if mutually perpendicular measuring coils were used. There

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was good agreement between the hysteresis loops obtained for the same film, magneto-optically and by current methods. The rectangularity of hysteresis loops and the coercive force of a 2100 Å thick film showed no appreciable change on changing the angle between the direction of remagnetization and the plane of the incident light. Iron films exceeding 1000 Å were shown to be isotropic. The hysteresis behaviour of iron and molybdenum permalloy films, vacuum-deposited from tungsten crucibles indicated that they were uniaxially anisotropic. Hysteresis loops of 2100 and 450 Å thick iron films, recorded from various sections of the films, showed that in the isotropic films the coercive force of both sections was 6 and 7 Oe, whilst in the anisotropic films (vacuum-deposited from crucibles) the respective values were 27.7 and 30.8 Oe. The differences in the coercive force of individual sections of the thin films were explained by the irregular distribution of the nonuniformities. A correspondence was observed between the behaviour of the hysteresis loops and the domain structure. Remagnetization in isotropic films was by boundary displacement. The domain structure in very thin iron

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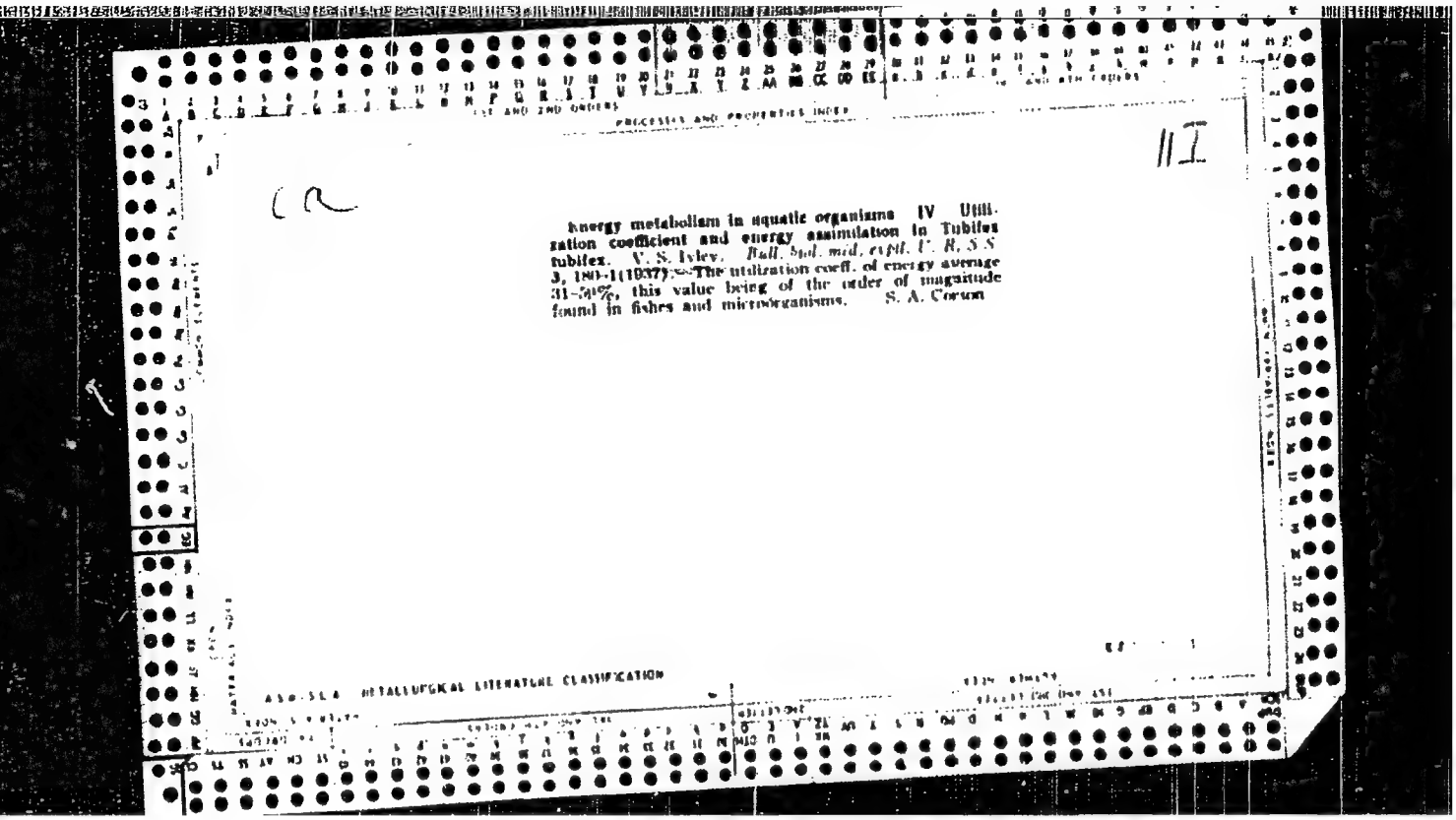

Energy metabolism in aquatic organisms IV Utilization coefficient and energy assimilation in Tubifex tubifex. V. S. Ivlev. *Bull. Stat. méd. expll. U. R. S. S.* 3, 180-1 (1937).—The utilization coeff. of energy average 31–34%, this value being of the order of magnitude found in fishes and microorganisms. S. A. Corum

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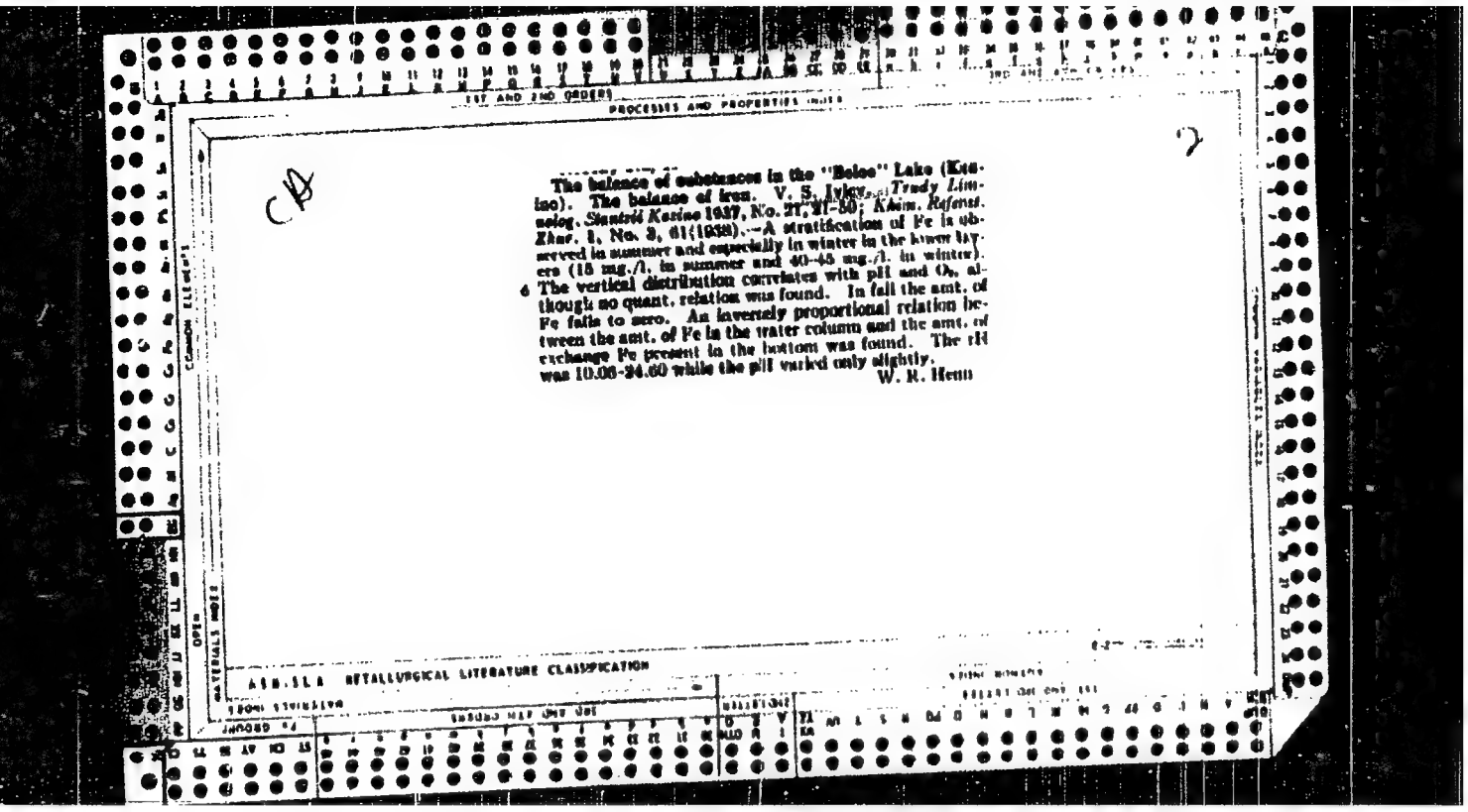

The balance of substances in the "Beloe" Lake (Kuzino). The balance of iron. V. S. Ivlev. *Trudy Limnolog. Stantsii Kosino* 1937, No. 21, 21–50; *Khim. Referat. Zhur.* 1, No. 3, 61(1938).—A stratification of Fe is observed in summer and especially in winter in the lower layers (15 mg./l. in summer and 40–45 mg./l. in winter). The vertical distribution correlates with pH and O_2, although no quant. relation was found. In fall the amt. of Fe falls to zero. An inversely proportional relation between the amt. of Fe in the water column and the amt. of exchange Fe present in the bottom was found. The rH was 10.08–24.60 while the pH varied only slightly.

W. R. Henn

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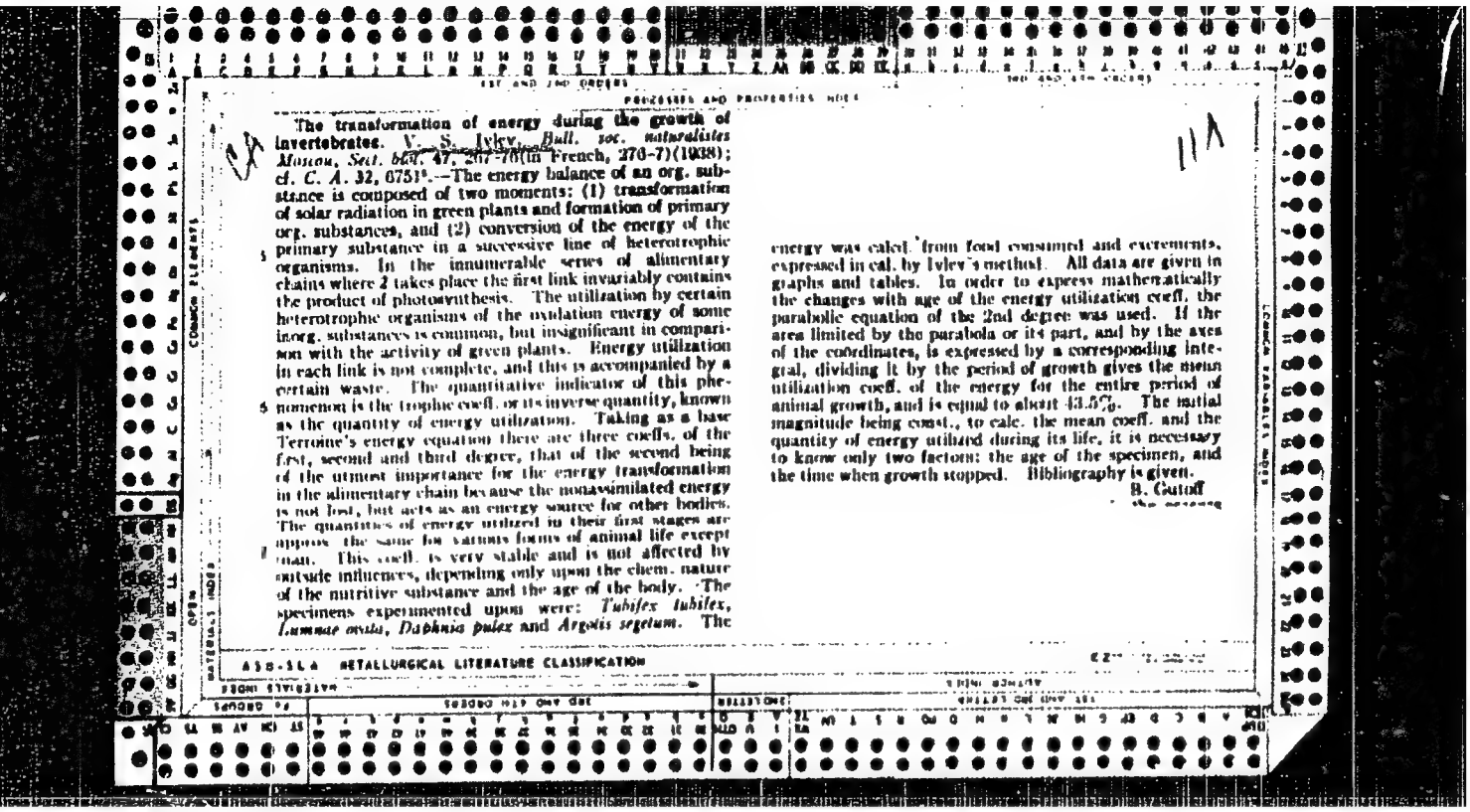

The transformation of energy during the growth of invertebrates. V. S. Ivlev. *Bull. soc. naturalistes Moscou, Sect. biol.* 47, 207-76(in French, 276-7)(1938); *cf. C. A.* 32, 6751⁹.—The energy balance of an org. substance is composed of two moments: (1) transformation of solar radiation in green plants and formation of primary org. substances, and (2) conversion of the energy of the primary substance in a successive line of heterotrophic organisms. In the innumerable series of alimentary chains where 2 takes place the first link invariably contains the product of photosynthesis. The utilization by certain heterotrophic organisms of the oxidation energy of some inorg. substances is common, but insignificant in comparison with the activity of green plants. Energy utilization in each link is not complete, and this is accompanied by a certain waste. The quantitative indicator of this phenomenon is the trophic coeff. or its inverse quantity, known as the quantity of energy utilization. Taking as a base Terroine's energy equation there are three coeffs. of the first, second and third degree, that of the second being of the utmost importance for the energy transformation in the alimentary chain because the nonassimilated energy is not lost, but acts as an energy source for other bodies. The quantities of energy utilized in their first stages are approx. the same for various forms of animal life except man. This coeff. is very stable and is not affected by outside influences, depending only upon the chem. nature of the nutritive substance and the age of the body. The specimens experimented upon were: *Tubifex tubifex*, *Lymnae ovata*, *Daphnia pulex* and *Argolis segetum*. The energy was calcd. from food consumed and excrements, expressed in cal. by Ivlev's method. All data are given in graphs and tables. In order to express mathematically the changes with age of the energy utilization coeff. the parabolic equation of the 2nd degree was used. If the area limited by the parabola or its part, and by the axes of the coördinates, is expressed by a corresponding integral, dividing it by the period of growth gives the mean utilization coeff. of the energy for the entire period of animal growth, and is equal to about 43.5%. The initial magnitude being const., to calc. the mean coeff. and the quantity of energy utilized during its life, it is necessary to know only two factors: the age of the specimen, and the time when growth stopped. Bibliography is given.

B. Gutoff

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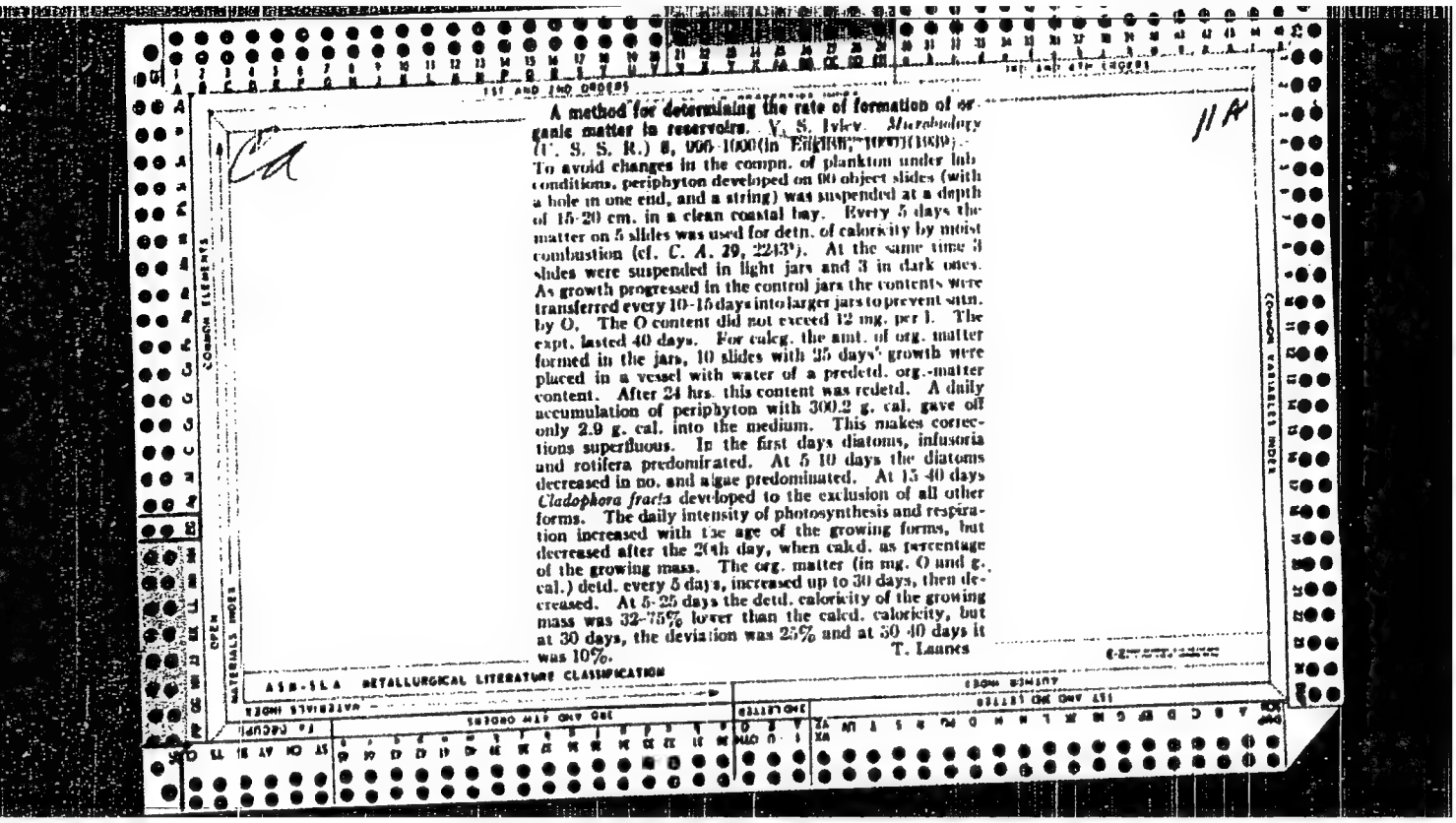

A method for determining the rate of formation of organic matter in reservoirs. V. S. Ivlev. *Hydrobiology* (U. S. S. R.) **8**, 966-1000 (in English, 1000) (1939).—To avoid changes in the compn. of plankton under lab conditions, periphyton developed on 60 object slides (with a hole in one end, and a string) was suspended at a depth of 15-20 cm. in a clean coastal bay. Every 5 days the matter on 5 slides was used for detn. of caloricity by moist combustion (cf. *C. A.* **29**, 2243⁹). At the same time 3 slides were suspended in light jars and 3 in dark ones. As growth progressed in the control jars the contents were transferred every 10-15 days into larger jars to prevent satn. by O. The O content did not exceed 12 mg. per l. The expt. lasted 40 days. For calcg. the amt. of org. matter formed in the jars, 10 slides with 25 days' growth were placed in a vessel with water of a predetd. org.-matter content. After 24 hrs. this content was redetd. A daily accumulation of periphyton with 300.2 g. cal. gave off only 2.9 g. cal. into the medium. This makes corrections superfluous. In the first days diatoms, infusoria and rotifera predominated. At 5-10 days the diatoms decreased in no. and algae predominated. At 15-40 days *Cladophora fracta* developed to the exclusion of all other forms. The daily intensity of photosynthesis and respiration increased with the age of the growing forms, but decreased after the 20th day, when calcd. as percentage of the growing mass. The org. matter (in mg. O and g. cal.) detd. every 5 days, increased up to 30 days, then decreased. At 5-25 days the detd. caloricity of the growing mass was 32-75% lower than the calcd. caloricity, but at 30 days, the deviation was 25% and at 30-40 days it was 10%.

T. Laanes

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"Effect of Starvation on Energy Transformation during the Growth of Fish," Dok. AN, 25, No. 1, 1939.

Mbr., Astrakhan National Park, (1939-'40).

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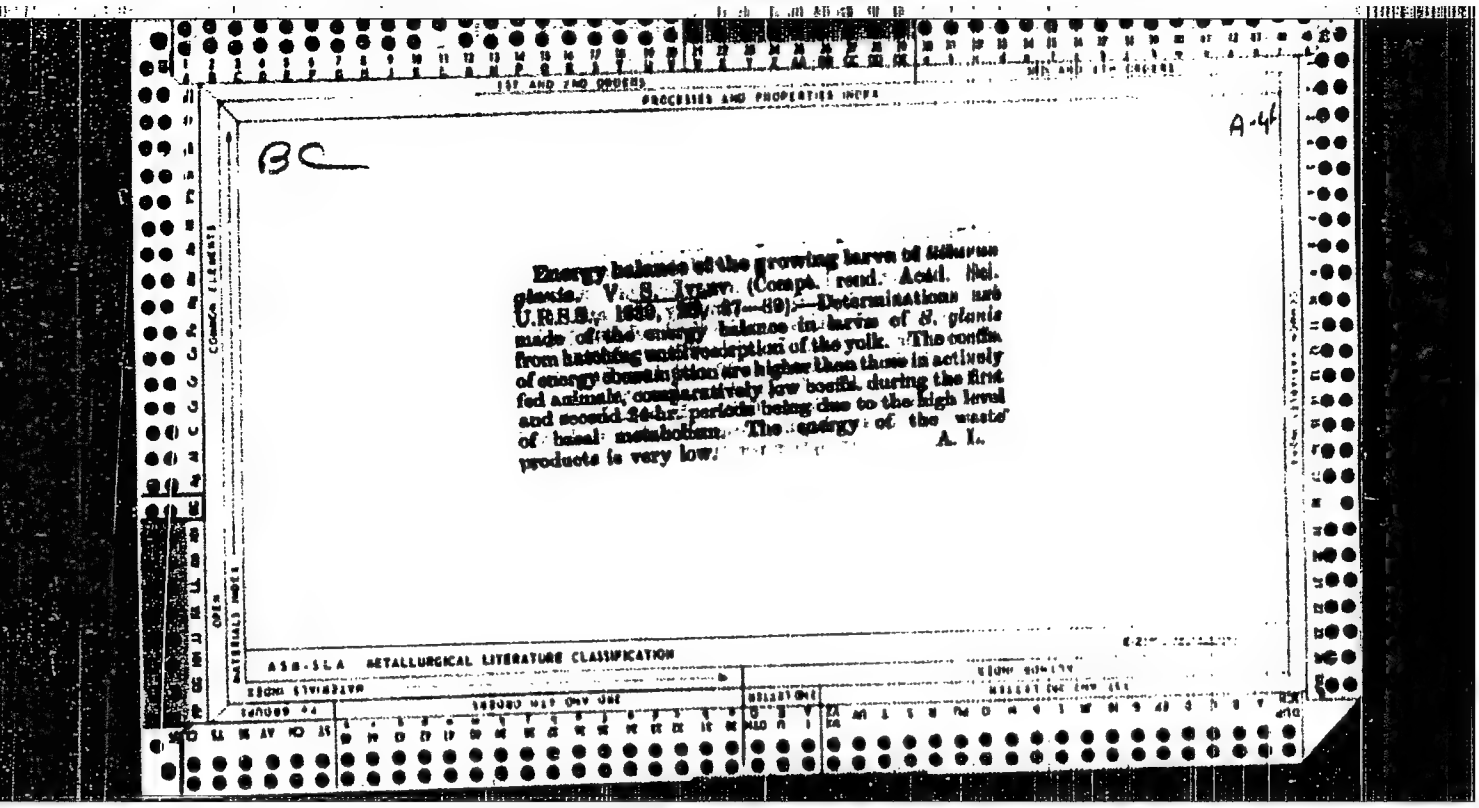
"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1



BC

A-4

Energy balance of the growing larva of Silurus glanis. V. S. Ivanov. (Compt. rend. Acad. Sci. U.R.S.S., 1939, 24, 87—89).—Determinations are made of the energy balance in larvæ of *S. glanis* from hatching until resorption of the yolk. The coefficients of energy absorption are higher than those in actively fed animals, comparatively low bomb. during the first and second 24-hr. periods being due to the high level of basal metabolism. The energy of the waste products is very low. A. I.

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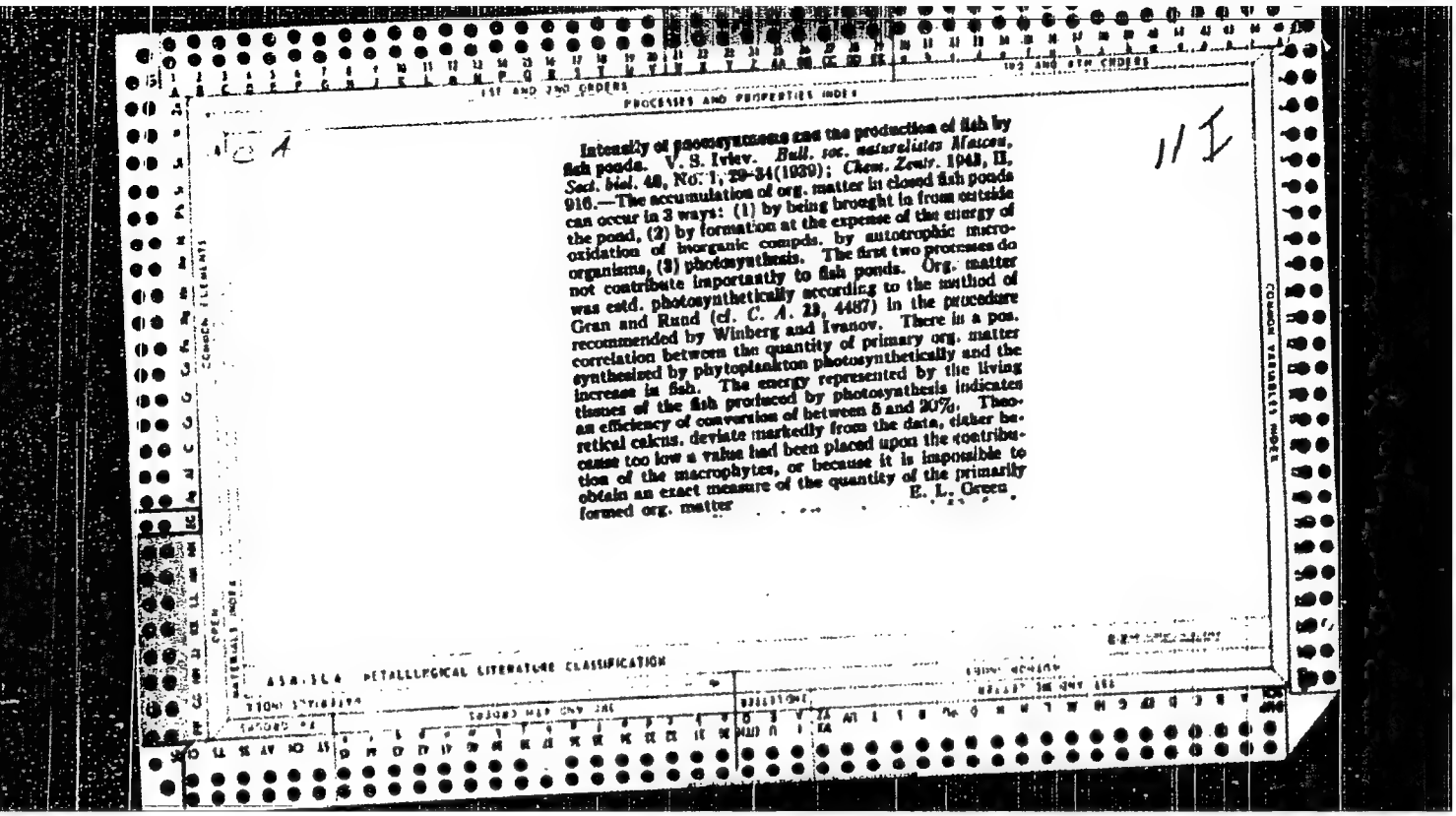

Intensity of photosynthesis and the production of fish by fish ponds. V. S. Iviev. *Bull. soc. naturalistes Moscou, Sect. biol.* 48, No. 1, 29-34(1939); *Chem. Zentr.* 1943, II, 916.—The accumulation of org. matter in closed fish ponds can occur in 3 ways: (1) by being brought in from outside the pond, (2) by formation at the expense of the energy of oxidation of inorganic compds. by autotrophic microorganisms, (3) photosynthesis. The first two processes do not contribute importantly to fish ponds. Org. matter was estd. photosynthetically according to the method of Gran and Rund (cf. *C. A.* 29, 4487) in the procedure recommended by Winberg and Ivanov. There is a pos. correlation between the quantity of primary org. matter synthesized by phytoplankton photosynthetically and the increase in fish. The energy represented by the living tissues of the fish produced by photosynthesis indicates an efficiency of conversion of between 5 and 20%. Theoretical calcns. deviate markedly from the data, either because too low a value had been placed upon the contribution of the macrophytes, or because it is impossible to obtain an exact measure of the quantity of the primarily formed org. matter

E. L. Green

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PROCESSES AND PROPERTIES INDEX

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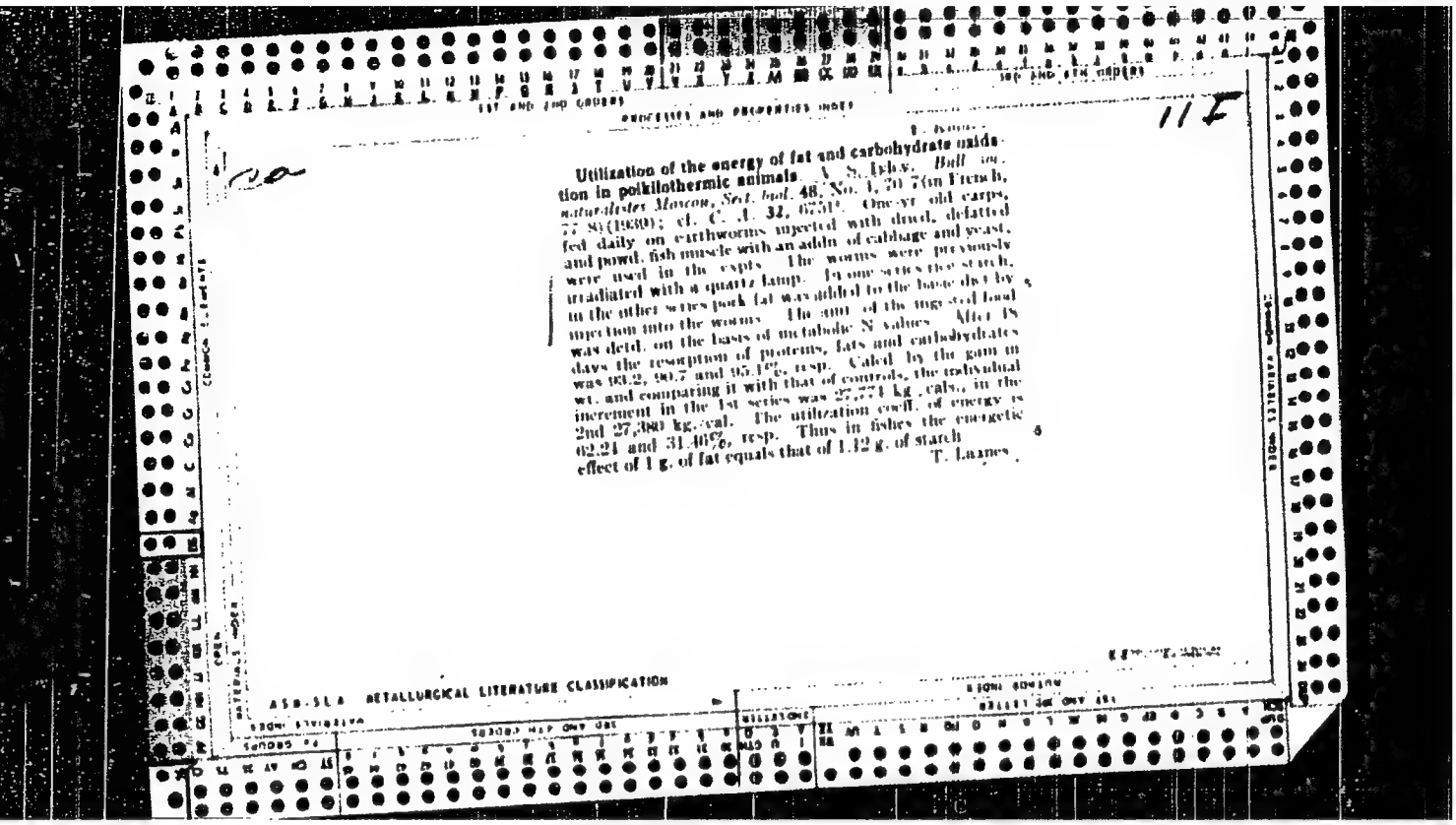

Utilization of the energy of fat and carbohydrate oxidation in poikilothermic animals. V. S. Iglev. *Bull. soc. naturalistes Moscou, Sect. biol.* 48, No. 1, 70-7 (in French, 77-8) (1939); cf. C. A. 32, 6751[1]. One-yr. old carps, fed daily on earthworms injected with dried, defatted and powd. fish muscle with an addn. of cabbage and yeast, were used in the expts. The worms were previously irradiated with a quartz lamp. In one series rice starch, in the other series pork fat was added to the basic diet by injection into the worms. The amt. of the ingested food was detd. on the basis of metabolic N values. After 18 days the resorption of proteins, fats and carbohydrates was 93.2, 90.7 and 95.1%, resp. Calcd. by the gain in wt. and comparing it with that of controls, the individual increment in the 1st series was 27,771 kg./cals., in the 2nd 27,380 kg./cal. The utilization coeff. of energy is 62.24 and 31.46%, resp. Thus in fishes the energetic effect of 1 g. of fat equals that of 1.12 g. of starch.

T. Laanes

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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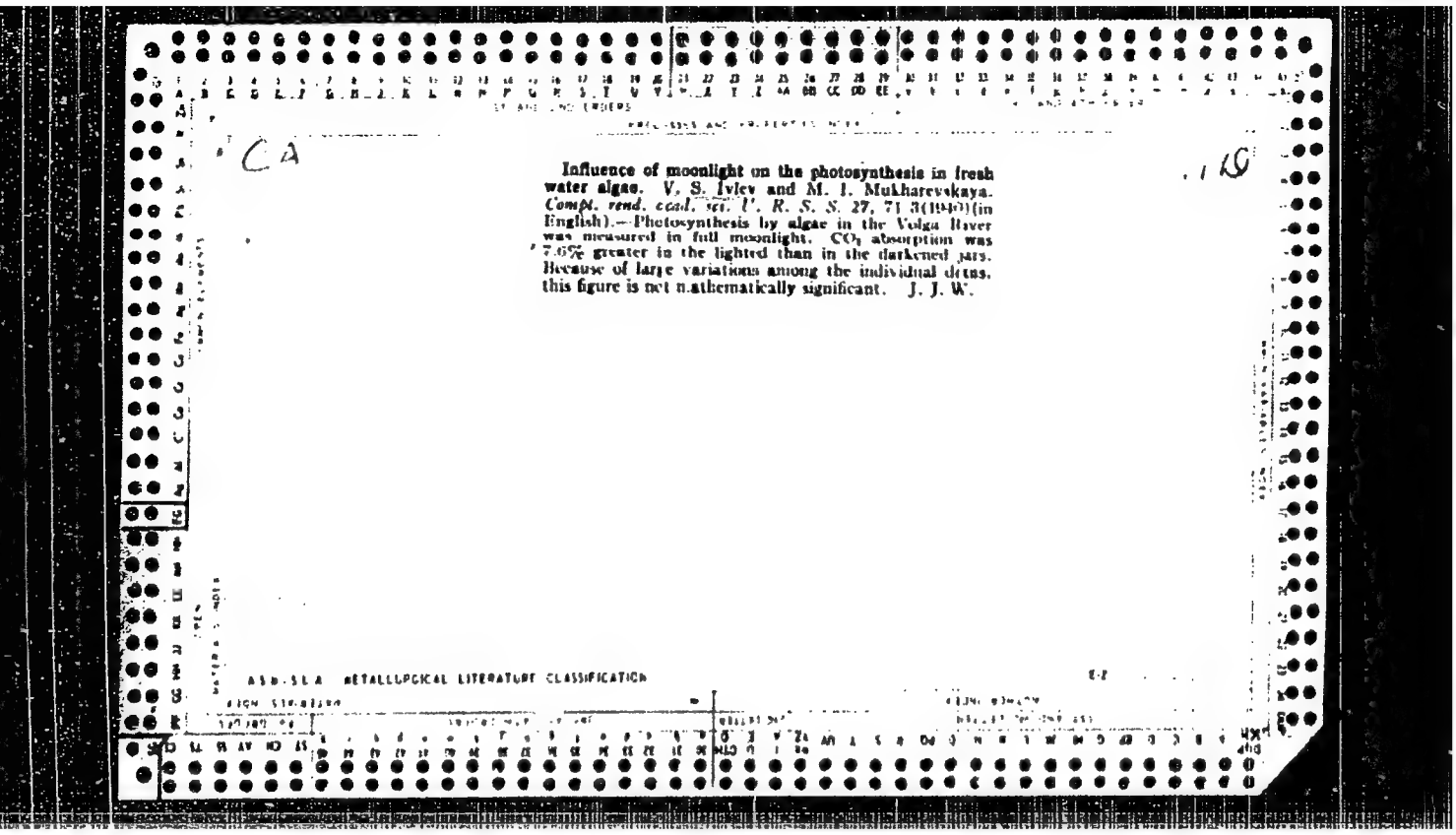

CA

Influence of moonlight on the photosynthesis in fresh water algae. V. S. Ivlev and M. I. Mukharevskaya. *Compt. rend. acad. sci. U. R. S. S.* 27, 71-3(1940)(in English).—Photosynthesis by algae in the Volga River was measured in full moonlight. CO_2 absorption was 7.6% greater in the lighted than in the darkened jars. Because of large variations among the individual determs. this figure is not mathematically significant. J. J. W.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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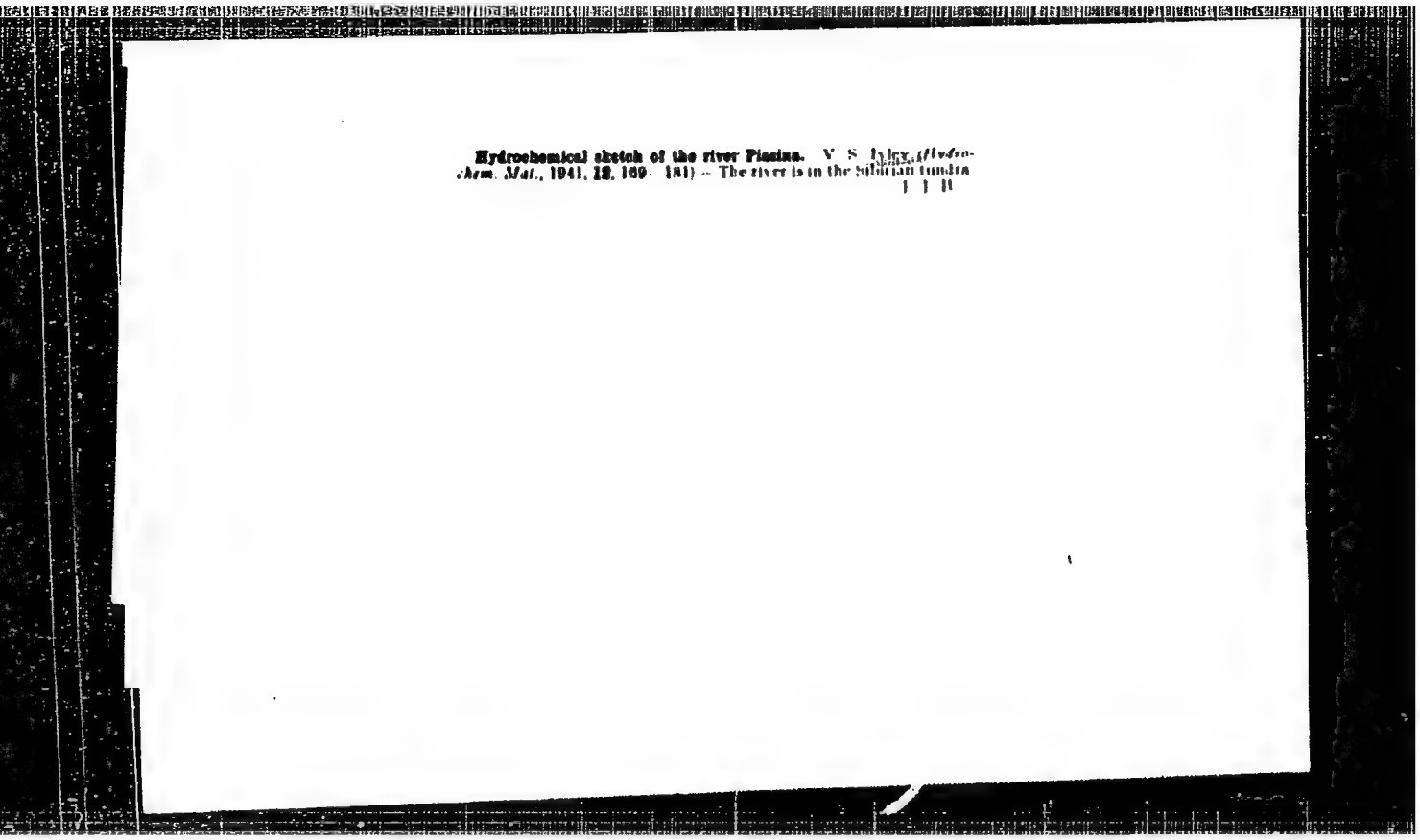

Hydrochemical sketch of the river Pissina. V. S. Ilyin. *Hydrochem. Mat.*, 1941, **10**, 169–181). — The river is in the Siberian tundra

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

IVLEV, V. S.

"The Biological Productivity of Waters" (p. 98) by Ivlev, V. S. (Kiev)

SO: Advances in Modern Biology (Uspekhi Sovremennoi Biologii) Vol. XIX, No. 1, 1945.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

"Conversion of Energy during the Growth of Birds,"
Byul. Mosk. Obshch. Ispytat. Prir., Otdel Biol., 43, No. 4, 1948.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

"Intensity in Competition for Food and the Systematic Relation between the Competitors,"
Dok. AN, 60, No. 2, 1948.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

35987 Dinamika vlazhnosti irostnika posle vegetatsiennogo. Perioda. Nauch.-metod. Zapiski (Sovet Ministrov RSFSR, Glav. Upr po Zapovednikam), Vyp. 12, 1949, S. 35[illegible]-52

SO: Letopis' Zhurnal'nykh Statey, Vol. 45, Moskva, 1949

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

1. IVLEV, V. S. and IVLEVA, I. V.

2. USSR (600)

4. Salmon

7. Results of the evaluation of the physiological value of live feed (Enchytraeus albidus Henle) in raising the young of salmon. Zool.zhur. 31 no. 6, 1952.

9. Monthly Lists of Russian Accessions, *Library of Congress, March 1953, Unclassified.

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

IVLEV, V.S.

Relation of metabolic rate in fish to body weight. Fiziol. zhur. 40 no.6:717-721 N-D '54. (MLRA 8:2)

1. Latviyskoye otdeleniye VNIRO.
(FISH,
relation of metab. to body weight)
(BODY WEIGHT,
relation to metab. in fish)
(METABOLISM,
relation to body weight in fish)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

IVLEV, V.S.

Effect of winter conditions on the blood of some fresh-water fishes. Biul.MOIP. Otd.biol.60 no.4:73-78 Jl-Ag'55. (MLRA 8:12)
(COLD -PHYSIOLOGICAL EFFECT) (FISHES)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

USSR / General Division, Biometry

A-7

Abs Jour: Ref Zhur-Biologiia, No 5, 1958, 18924

Author : Ivlev V. S.

Inst :

Title : Biology and Mathematics

Orig Pub: Vopr. filosofii, 1956, No 6, 76-79

Abstract: A criticism of the opinion of some biologists that mathematics is not necessary to biology. Examples of the solution of biological problems by mathematical methods. Briefly analyzed are the fields of mathematics which can be used in biology. Regrets are expressed on the fact that biologists have poor mathematical preparation.

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

IVLEV, V.S.; GERBIL'SKIY, N.L.

"Intensity of metabolism and food requirements of fishes" by G.G. Vinberg. Reviewed by V.S.Ivlev and N.L.Gerbil'skii. Zool.zhur. 36 no.5:795-797 My '57. (MLRA 10:7)
(Fishes--Food) (Metabolism) (Vinberg, G.G.)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

IVLEV, V.S., doktor biol. nauk

Ecologico-physiological analysis of the distribution of fishes as related to temperature gradients of the environment. Trudy sov.Ikht.kom. no.8:288-296 '58. (MIRA 11:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut ozernogo i rechnogo rybnogo khozyaystva.
(Temperature--Physiological effect) (Fishes)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

IVLEV, V.S.

De Lury's regression method of estimating commercial fish populations. Vop. ikht. no.11:39-43 '58. (MIRA 12:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut ozernogo i rechnogo rybnogo khozyaystva.
(Fisheries--Research)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

IVLEV, V.S.

Some problems of theoretical ecology [with summary in English].
Biul. MOIP. otd. biol. 63 no.1:5-14 Ja-F '58. (MIRA 11:5)
(ZOOLOGY--ECOLOGY)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

IVLEV, V.S.

Mathematical analysis of population dynamics of fishes. Vest. LGU 14 no.9:119-127 '59. (MIRA 12:5)
(BIOMETRY) (FISHERIES--RESEARCH)

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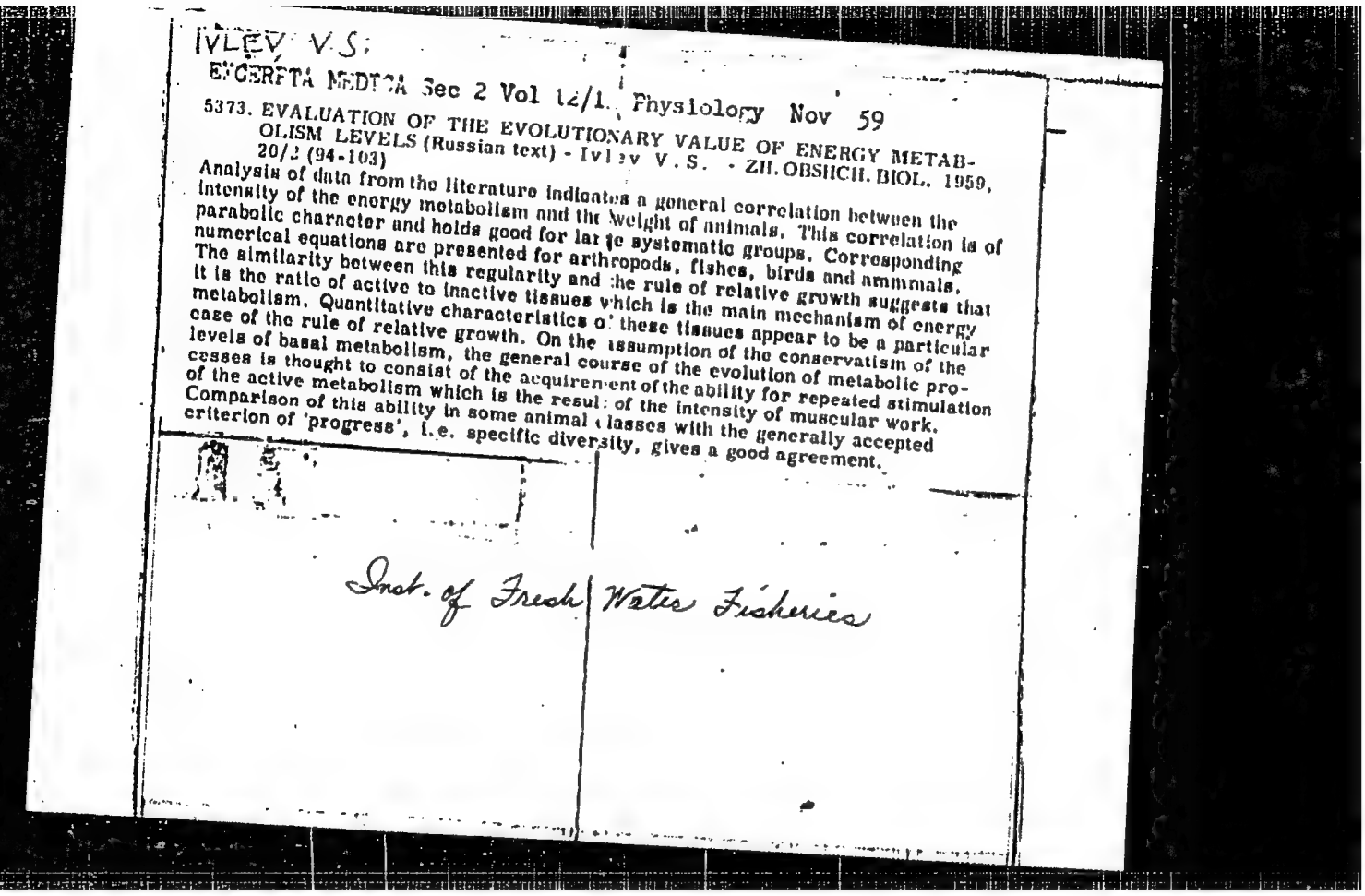

IVLEV V.S.

EXCERPTA MEDICA Sec 2 Vol 12/1. Physiology Nov 59

5373. EVALUATION OF THE EVOLUTIONARY VALUE OF ENERGY METABOLISM LEVELS (Russian text) - Ivlev V.S. - ZH. OBSHCH. BIOL. 1959, 20/2 (94-103)

Analysis of data from the literature indicates a general correlation between the intensity of the energy metabolism and the weight of animals. This correlation is of parabolic character and holds good for large systematic groups. Corresponding numerical equations are presented for arthropods, fishes, birds and mammals. The similarity between this regularity and the rule of relative growth suggests that it is the ratio of active to inactive tissues which is the main mechanism of energy metabolism. Quantitative characteristics of these tissues appear to be a particular case of the rule of relative growth. On the assumption of the conservatism of the levels of basal metabolism, the general course of the evolution of metabolic processes is thought to consist of the acquirement of the ability for repeated stimulation of the active metabolism which is the result of the intensity of muscular work. Comparison of this ability in some animal classes with the generally accepted criterion of 'progress', i.e. specific diversity, gives a good agreement.

Inst. of Fresh Water Fisheries

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

IVLEV, V. S.

Analysis of the mechanism of distribution of fish in changing water temperature. Zool. zhur. 39 no.4:494-499 Ap '60.
(MIRA 13:11)

1. All-Union Research Institute of Lake and River Fishery Management, Leningrad.
(Fishes)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

VIGDOROVICH, V.N. (Moskva); IVLEVA, V.S. (Moskva);
KROL', L.Ya. (Moskva)

Distribution of arsenic and selenium inclusions during the zonal recrystallization of antimony. Izv. AN SSSR. Otd. tekh. nauk. Met. i topl. no.4:29-30 Jl-Ag '61. (MIRA 14:8)
(Antimony—Metallurgy)
(Zone melting)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

IVLEV, V.S.; IVASIK, V.M.

Materials on the biology of mountain rivers in Soviet Transcarpathia. Trudy Gidrobiol. ob-va 11:171-188 '61. (MIRA 15:1)

1. Sevastopol'skaya biologicheskaya stantsiya AN USSR i L'vovskiy zooveterinarnyy institut.
(Transcarpathia--Fresh-water fauna)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

IVLEV, V.S.

Principle underlying mathematical model studies of the dynamics of commercial fish populations. Trudy sov. Ikht. kom. no.13:185-193 '61. (MIRA 14:8)

1. Sevastopol'skaya biologicheskaya stantsiya AN SSSR.
(Fisheries--Research)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

IVLEV, V.S.

Method of extimating the amount of food available to fishes. Trudy sov. Ikht. kom. no.13:330-336 '61. (MIRA 14:8)

1. Sevastopol'skaya biologicheskaya stantsiya AN SSSR.
(Fishes—Food)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

IVLEV, V.S.

Utilization of food by planktonophagous fishes. Trudy SBS 14: 188-201 '61. (MIRA 15:4)

(Fishes--Food)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

IVLEV, V.S.; SUSHCHENYA, L.M.

Intensity of aquatic and atmospheric respiration in some marine crustaceans. Zool. zhur. 40 no.9:1345-1353 S '61. (MIRA 14:8)

1. Sebastopol Biological Station of the U.S.S.R. Academy of Sciences.

(Crustacea) (Respiration)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

IVLEV, V.S.

The level of energy metabolism in lancelets. Dokl. AN SSSR 140 no.5:1217-1219 O '61. (MIRA 15:2)

1. Sevastopol'skaya biologicheskaya stantsiya im. A.O.Kovalevskogo AN SSSR. Predstavleno akademikom Ye.N.Pavlovskim.
(Metabolism)
(Lancelets)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

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IVLEV, V.S.

Energetic foundations of the problem of biological productivity.
Vop. ekol. 4:27-28 '62. (MIRA 15:11)

1. Biologicheskaya stantsiya AN SSSR, Sevastopol'.
(Bioenergetics) (Zoology--Ecology)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

IVLEV, V.S.

Biological foundations for organizing combined carp and salmon farms. Trudy sov. Ikht. kom. no.14:64-67 '62. (MIRA 15:12)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut ozernogo i rechnogo rybnogo khozyaystva (GosNIORKh).
(Baltic Sea region—Carp)
(Baltic Sea region—Salmon)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

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IVLEV, V.S.

Active energy metabolism in the young of the Baltic salmon (Salmo salar L.) Vop. ikht. 2 no.1:158-168 '62. (MIRA 15:3)

1. Sevastopol'skaya biologicheskaya stantsiya AN SSSR.
(BALTIC SEA--SALMON)
(METABOLISM)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

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IVLEV, V.S.

Smolt metamorphosis of salmons and its biological importance. Zhur. ob. biol. 23 no.1:72-73 Ja-F '62. (MIRA 15:3)

1. Biological Section of the U.S.S.R. Academy of Sciences, Sebastopol.

(SALMON)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

IVLEV, V. S. (Sevastopol ')

"Parameters Characterizing the Level of Energy Metabolism of Animals."

report presented at the 3rd Conference on the use of Mathematics in Biology, Leningrad University , 23-28 Jan 1961.
(Primeneniye matematicheskikh Metodov v Biologii. II, Leningrad, 1963, pp. 5-11

~~(Moscow Agricultural Academy imeni Timiryazev)~~

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

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IVLEV, V.S.

Parameters characterizing the levels of energy metabolism in animals. Prim. mat. metod. v biol. no.2:146-151 '63. (MIRA 16:11)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

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IVLEV, V.S.

Study of the distribution of animals as related to the environmental gradients as a method of ecological and physiological analysis. Trudy SBS 16:277-281 '63.

(MIRA 17:6)

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IVLEV, V.S.

Energy expenditure during the motion of prawns. Zool. zhur. 42 no.10:1465-1471 '63. (MIRA 16:12)

1. Institute of Biology of South Seas, Academy of Sciences of the Ukrainian S.S.R., Sebastopol.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

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IVLEV, V.S.; YAKOVLEVA, K.K.

Energy metabolism level in sponges. Dokl. AN SSSR 152 no.1:241-243 S '63. (MIRA 16:9)

1. Sevastopol'skaya biologicheskaya stantsiya AN UkrSSR.
(SPONGES) (METABOLISM)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

VODYANITSKIY, V.A., otv. red.; DOLGOPOL'SKAYA, M.A., kand. biol. nauk, red.: GREZE, V.N., doktor biol. nauk, red.; [illegible] V.S., doktor biol. nauk, red.[deceased]; PITSYK, G.K., kand. biol. nauk, red.; SHARPILO, L.D., red.

[Studies of plankton in the Black and Azov Seas] Issledovaniia planktona Chernogo i Azovskogo morei. Kiev, Naukova dumka, 1965. 115 p. (MIRA 18:8)

1. Akademiya nauk URSR, Kiev. 2. Chlen-korrespondent AN Ukr.SSR (for Vodyanitskiy).

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

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VODYANITSKIY, V.A., otv. red.; DOLGOPOL'SKAYA, M.A., kand. biol. nauk, red.; VINOGRADOV, K.A., doktor biol. nauk, red.; GREZE, V.N., doktor biol. nauk, red.; IVLEV, V.S., doktor biol. nauk, red.[deceased]; KISELEVA, M.I., kand. biol. nauk, red.; SHARPILO, L.D., red.

[Benthos] Bentos. Kiev, Naukova dumka, 1965. 137 p. (MIRA 18:7)

1. Akademiya nauk SSSR. 2. Chlen-korrespondent AN Ukr.SSR (for Vodyanitskiy).

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

IVLEV, Ye.T.

Vector sets of submanifolds in the theory of paired complexes in P3. Dokl. AN SSSR 139 no.3:538-540 Jl '61. (MIRA 14:7)

1. Tomskiy gosudarstevennyy universitet im. V.V. Kuybysheva. Predstavleno akademikom P.S. Aleksandrovym.

(Complexes) (Vector analysis)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

IVLEV, Ye.T.

Canonical frame of reference of a pair of congruences in three-dimensional projective space. Trudy TGU 160:15-24 '62.

Frame of reference of submanifolds in the theory of pairs of congruences in P_3. Ibid.:25-38

(MIRA 17:1)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

IVLEV, Ye.T.

Canonical frame of reference of an arbitrary pair of complexes in P_3. Sib. mat. zhur. 4 no.3:562-581 My-Je '63. (MIRA 16:6)
(Geometry, Differential--Projective) (Complexes)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

IVLEV, Ye.T.; PERGAMENSHCHIKOV, M.B.

A projective class of pairs of complexes. Dokl. AN Arm. SSSR 36 no.1:11-15 '63. (MIRA 17:1)

1. Predstavleno akademikom AN Armyanskoy SSR M.M. Dzhrbashyanom.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

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IVLEV, Ye.T.

Frames of submanifolds in the theory of pairs of complexes in R_3. Sib. mat. zhur. 4 no.4:799-820 Jl-Ag '63. (MIRA 16:9)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

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IVLEV, Yu.G., inzh.

Improve the maintenance of roofing. Gor.khoz.Mosk. 36 no.7:20 Jl '62. (MIRA 16:1)

(Roofs—Maintenance and repair)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

IVLEV, Yu.G., inzh.

Productions bases for housing offices. Gor.khoz.Mosk. 36 no.12:18-20 D '62. (MIRA 16:2)
(Moscow--Apartment houses)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

KANAVETS, P.I.; MELENT'YEV, P.N.; YENIK, G.I.; IVLEVA, A.S.;
LAZOVSKIY, I.M.; GRYAZNOV, N.S.; MOCHALOVA, G.V.; KORENSKIY, V.I.

Preliminary granulating of coal charges with rolling in mazut.
Koks i khim. no.8:10-14 '63. (MIRA 16:9)

1. Institut goryuchikh iskopayemykh AN SSSR (for Kanavets, Melent'yev, Yenik, Ivleva). 2. Vostochnyy uglekhimicheskiy institut (for Lazovskiy, Gryaznov, Mochalova, Korenskiy).
(Coal preparation)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

KANAVETS, P.I.; MELENT'YEV, P.N.; SPORIUS, A.E.; CHERNYKH, V.I.; YENIK, G.I.; IVLEVA, A.S.

Technological characteristics of granulating coal charges. Trudy IGI 22:147-153 '63. (MIRA 16:11)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

KANAVETS, P.I.; MELENT'YEV, P.N.; SPORIUS, A.E.; CHERNYKH, V.I.; YENIK, G.I.; IVLEVA, A.S.; GESS, B.A.; CHERNYSHEV, A.M.

Obtaining metallurgical coke from weakly-caking coals by the preliminary granulation of coal charge mixtures prior to coking. Trudy IGI 22:154-168 '63. (MIRA 16:11)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

ACCESSION NR: AT4002662 S/2531/63/000/149/0072/0080

AUTHOR: Shver, Ts. A.; Ivleva, G. F.

TITLE: Length of the period of solid and mixed precipitation of USSR territory

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy*, no. 149, 1963. Voprosy* prikladnoy klimatologii, 72-80

TOPIC TAGS: climatology, USSR climatology, solid precipitation, mixed precipitation, USSR precipitation period, precipitation duration, meteorology, precipitation physico-geographic relationship

ABSTRACT: One of the important problems of climatology is the calculation of perennial average values of different meteorological elements. These averages are used for comparison of climatic conditions of different regions and at the same time are used for the development of different climatic behavior of each season in varied geographical conditions. To measure these perennial averages the authors have employed Tret'yakov's precipitation gauge. The use of Tret'yakov's precipitation gauge in place of a rain gauge with a Nifyer screen resulted in more accurate measurement of the hard precipitation level. This measurement necessitated a reevaluation of the long term averages of the precipitation levels. For the sake of uniformity, any month having no more than 6 days

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ACCESSION NR: AT4002662

with average daily temperatures above 0C was regarded as a part of the hard precipitation period. This definition allows one to determine the duration of the hard precipitation period to within a ten-day interval. The beginning of the hard precipitation period varies from the third 10-day period in September in the North to the second 10-day period in January in the Southwest. The end of this period varies from the second 10-day period of June to the second 10-day period of February. The duration varies over the territory of the USSR and is longest (twenty-eight 10-day intervals) in the northern Taymyr Peninsula and shortest (four to six 10-day intervals) in the southern part of the European territory. The territory of the SSSR is divided into 44 regions, each of which measures 5 degrees in latitude and 10 degrees in longitude as shown in Figure 1 of the Enclosure. For identical wind velocities and type of screening the corrections applied to the average hard precipitation level as measured with the gauge depend upon the physical and geographical conditions of the region. The correction for the mixed precipitation level is constant and is equal to 10%. The duration of the mixed period varies from one 10-day period in the North and Northeast to six to seven 10-day periods in the western and southern portions of the European territory. It is concluded that the average monthly temperature of the hard precipitation period ranges from -6.0 to -7.5C at the beginning and at the end from -5.0 to -7.2C over most of the USSR, with the exception of the northern and northeastern regions. Orig. art. has: 2 figures and 4 tables.

Card 2/5

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ACCESSION NR: AT4002662

ASSOCIATION: Glavnaya Geofizicheskaya observatoriya, Leningrad (Main Geophysical Observatory)

SUBMITTED: 00	DATE ACQ: 14Jan64	ENCL: 02
SUB CODE: ES	NO REF SOV: 008	OTHER: 003

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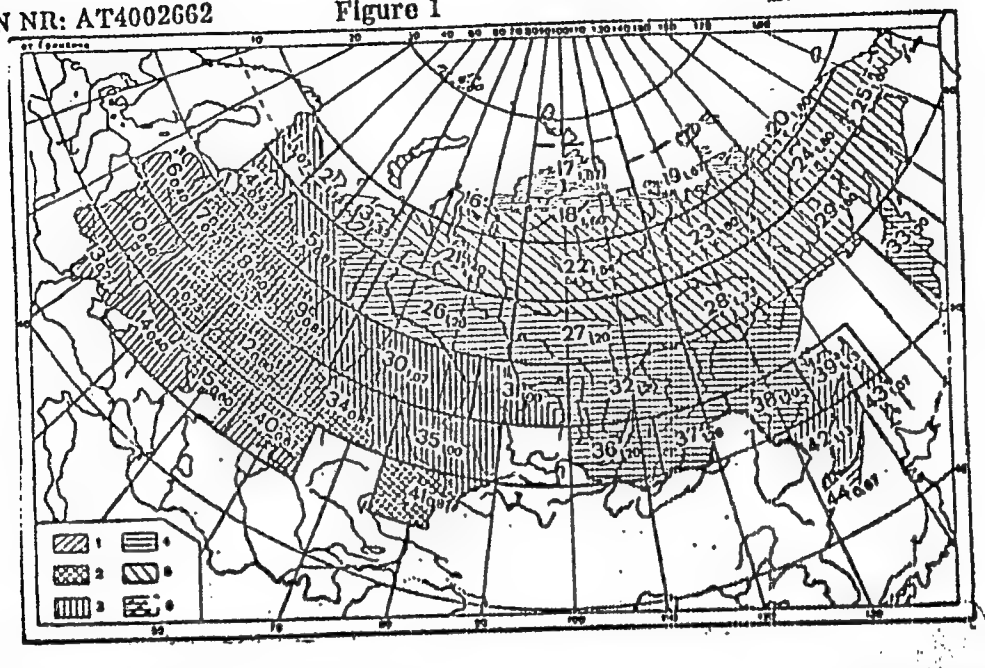
"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

ACCESSION NR: AT4002662

Figure 1

ENCLOSURE: 01



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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

ACCESSION NR: AT4002662

ENCLOSURE: 02

(Continued - Fig. 1)

Fig. 1 - Schematic chart of regions (large numerals) and ratios of the duration of the cold period (November to March) to the duration of the hard precipitation period (small numerals). Duration of the period with hard precipitation: 1 - XII_3 - II_{2-3}, 2 - XI_3 - XII_2 - III_{1-3}, 3 - X_1 - 2 - III_3 - IV_2, 4 - X_{2-3} - IV_2, 5 - X_{1-2} - IV_3 - V_3, 6 - X_{2-3} - VI_{1-2}.

(Roman numerals denote the month, subscripts denote number of 10-day intervals from the first day of each month).

Card 5/5

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

SEMENOV, A.D.; IVLEVA, I.N.; DATSKO, V.G.

Determination of microgram quantities of amino acids in natural waters. Izv. AN SSSR. Otd. khim. nauk no. 1:184-186 Ja '61.
(MIRA 14:2)

1. Gidrokhimicheskiy institut AN SSSR.
(Amino acids)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

SEMENOV, A.D.; IVLEVA, I.N.; DATSKO, V.G.

Method of determining microgram quantities of reducing sugars in natural waters by the use of alkaline solution of bivalent copper. Gidrokhim.mat. 34:138-146 '61. (MIRA 15:2)

1. Gidrokhimicheskiy institut AN SSSR, Novocherkassk.
(Water--Analysis) (Sugars)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

IVLEVA, I. V.

"Dependence of the tissue heat resistance of polychaets upon the condition of temperature and salinity of a medium."

UNESCO - International Symposium on the Role of Cell Reactions in Adaptations of Metazoa to Environmental Temperature.

Leningrad, USSR, 31 May - 5 June 1963

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SEMENOV, A.D.; IVLEVA, I.N.; DATSKO, V.G.

Methods for the concentration and determination of amino acids in natural waters. Trudy Kom. khim. 13:62-65 '63. (MIRA 16:5)

1. Gidrokhimicheskiy institut g. Novocherkasska.
(Amino acids) (Water—Analysis)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

SEMENOV, A.D.; IVLEVA, I.N.; DATSKO, V.G.

Microdetermination of reducing sugars in natural waters.
Trudy Kom.nanal.khim. 13:66-68 '63. (MIRA 16:5)

1. Gidrokhimicheskiy institut, Novocherkassk.
(Sugars) (Water—Analysis)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

SEMENOV, A.D.; IVLEVA, I.N.; DATSKO, V.G.

Determination of microgram quantities of humic acids in natural waters. Gidrokhim. mat. 35:161-167 '63. (MIRA 16:7)

1. Gidrokhimicheskiy institut, Novocherkassk.
(Water--Composition) (Humic acid)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

SEMENOV, A.D.; IVLEVA, I.N.; DATSKO, V.G.

Determination of the reducing sugars in the hydrolysates of the organic matter of natural waters. Gidrokhim.mat. 36:161-164 '64. (MIRA 18:11)

1. Gidrokhimicheskiy institut, Novocherkassk. Submitted December 18, 1961.

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DATSKO, V.G. [deceased]; VASIL'YEVA, V.L.; ROMENSKAYA, N.N.; IVLEVA, I.N.; SEMENOV, A.D.

Some data on organic substances in the Tsimlyansk Reservoir and elements of their balance. Gidrokhim. mat. 37:63-70 '64. (MIRA 18:4)

1. Gidrokhimicheskiy institut Glavnogo upravleniya gidrometeorologicheskoy sluzhby pri Sovete Ministrov SSSR, Novocherkassk.

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IVLEVA, I.N.; SEMENOV, A.D.; DATSKO, V.G. [deceased]

Method of determining reducing sugars in natural waters with p-aminohippuric acid. Gidrokhim. mat. 38:144-149 '64.

(MIRA 18:4)

1. Gidrokhimicheskiy institut AN SSSR, Novocherkassk.

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KHESIN, Gennadiy L'vovich; BABENKOV, Igor' Sergeyevich; IVANOV, Konstantin Ivanovich; MEL'NIKOV, Ye.A., otv. red.; LEDOVSKAYA, V.V., red.; IVLEVA, I.P., red.

[Stress distribution in a boring instrument and in rock; static and dynamic investigation by the photoelastic method] Raspredelenie napriazhenii v burovom instrumente i porode; staticheskie i dinamicheskie issledovaniia metodom foto-uprugosti. Moskva, TSentr. nauchno-issl. in-t informatsii i tekhniko-ekon. issledovanii ugol'noi promyshl., 1963. 89 p. (MIRA 17:4)

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1. IVLEV, V. S. and IVLEVA, I. V.

2. USSR (600)

4. Salmon

7. Results of the evaluation of the physiological value of live feed (Enchytraeus albidus Henle) in raising the young of salmon. Zool.zhur. 31 no. 6, 1952.

9. Monthly Lists of Russian Accessions, Library of Congress, March 1953, Unclassified.

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IVLEVA, I.V.

Growth and propagation of milk-white worms of the species Enchytraeus albidus Henle. Zool.zhur. 32 no.3:394-404 My-Je '53. (MLRA 6:6)

1. Latviyskoye otdeleniye Vsesoyuznogo nauchnogo instituta rybolovstva i okeanografii. (Oligochaeta)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619320009-1

IVLEVA, I. V.

Dissertation: "The Biology of Enchytraeids and Their Use in Rearing Young Baltic Salmon." Cand Biol Sci, Moscow Technical Inst of the Fish Industry and Economy imeni A. I. Mikoyan, 21 Jun 54. (Vechernyaya Moskva, Moscow, 11 Jun 54)

SO: SUM 318, 23 Dec 1954

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